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Appln. No. 10/007,468
Amendment dated October 6, 2006
Reply to Office Action of June 20, 2006

Amendments to the Claims:

Please cancel claims 5 and 14 and amend claims 1 and 12 as follows. The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended). A liquid crystal display device comprising:

a liquid crystal display panel having a plurality of signal lines, a plurality of scanning lines, and a plurality of display pixels arrayed in a matrix and provided respectively near cross-points between the signal lines and the scanning lines through switching elements; and

a driver which supplies the plurality of signal lines with a display signal in a field period, and which supplies the plurality of scanning lines with a scanning signal, to apply the display signal to the plurality of display pixels, wherein

the driver includes means which supplies an initialization signal including a constant single pulse voltage to the plurality of signal lines and supplies a first gate pulse as the scanning signal to the display pixels,

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and after completing the supply of the initialization signal to the plurality of signal lines and completion of the supply of the first gate pulse to the plurality of scanning lines, and after a predetermined hold time, supplying the display signal to the plurality of signal lines and supplying a second gate pulse as the scanning signal to the plurality of scanning lines, thereby applying the display signal to the display pixel, at least one signal application period set within the field period,

the liquid crystal display panel includes a plurality of pixel electrodes arrayed in a matrix through the switching elements, common electrodes opposed to the pixel electrodes, and liquid crystal sandwiched between the pixel electrodes and the common electrode, and

the hold time is set to a time equal to or longer than a voltage-write response time of the liquid crystal in the display pixels.

wherein the initialization signal in the driver has a value equal to or higher than a maximum voltage value of the display signal.

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Claim 2 (Previously Presented). The liquid crystal display device according to claim 1, wherein the liquid crystal display panel is a non-auxiliary capacitance type.

Claim 3 (Previously Presented). The liquid crystal display device according to claim 1, wherein each of the switching elements of the liquid crystal display panel includes a thin film transistor.

Claim 4 (Cancelled).

Claim 5 (Cancelled).

Claim 6 (Previously Presented). The liquid crystal display device according to claim 1, wherein

the driver applies the initialization signal and the display signal to the display pixels connected to the scanning lines of the liquid crystal display panel, at a predetermined time interval, sequentially for every one of the scanning lines, in the signal application period in the field period, and

the time interval is set to a value at which timings of applying the initialization signal voltage and the display signal

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- 10 to every one of the display pixels connected to each of the scanning lines do not overlap with each other.

Claim 7 (Previously Presented). The liquid crystal display device according to claim 1, wherein

- 5 application timing is set such that the driver applies the initialization signal simultaneously to all of the display pixels of the liquid crystal display panel, and thereafter applies the display signal to the display pixels connected to the scanning lines of the liquid crystal display panel, at a predetermined time interval, sequentially for every one of the scanning lines, in the signal application period in the field period.

Claim 8 (Previously Presented). The liquid crystal display device according to claim 1, wherein

the driver provides three signal application periods in one field period.

Claim 9 (Previously Presented). The liquid crystal display device according to claim 8, wherein

the display signal comprises first, second, and third color component signals, and

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5 the driver applies the initialization signal and thereafter
applies any one of the first, second, and third color component
signals, to the display pixels connected to the scanning lines of
the liquid crystal display panel, sequentially for every one of
the scanning lines, in each of the signal
10 application periods of the field period.

Claim 10 (Previously Presented). The liquid crystal display
device according to claim 9, further comprising an illumination
light source capable of controlling light emission color,

the illumination light source being controlled to have light
5 emission color corresponding to any one of the first, second, and
third color component signals that is applied by the driver in
each signal application period.

Claim 11 (Previously Presented). The liquid crystal display
device according to claim 8, wherein of the display signal, the
first color component signal is a red component signal, the
second color component signal is a green component signal, and
5 the third color component signal is a blue component signal.

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Claim 12 (Currently Amended). A drive control method for a liquid crystal display device which has a plurality of signal lines, a plurality of scanning lines, and a plurality of display pixels arrayed in a matrix and provided respectively near cross-points between the signal lines and the scanning lines through switching elements, the plurality of display pixels including a plurality of pixel electrodes arrayed in a matrix through the switching elements, common electrodes opposed to the pixel electrodes, and liquid crystal sandwiched between the pixel electrodes and the common electrode, wherein the plurality of signal lines are supplied with a display signal in a field period and scanning signals are supplied to the plurality of scanning lines, to apply the display signal to the plurality of display pixels, comprising:

providing at least one signal application period in the field period;

applying an initialization signal including a constant single pulse to the display pixels, by supplying the initialization signal to the plurality of signal lines and supplying a first gate pulse as the scanning signal to the scanning lines; and

applying the display signal to the display pixels by supplying the display signal to the plurality of signal lines and

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supplying a second gate pulse as the scanning signal to the
25 plurality of scanning lines after a predetermined voltage hold
time has passed after completion of applying the initialization
signal to the display pixels and the first gate pulse to the
plurality of scanning lines,

wherein the hold time is set to a time equal to or longer
30 than a voltage-write response time of the crystal liquid in the
display pixels,

wherein the initialization signal has a value equal to or
higher than a maximum voltage value of the display signal.

Claim 13 (Cancelled).

Claim 14 (Cancelled).

Claim 15 (Previously Presented). The drive control method
according to claim 12, wherein applying the initialization signal
includes applying the initialization signal to the display pixels
connected to the scanning lines, sequentially for every one of
5 the scanning lines,

applying the display signal includes applying the display
signal to the display pixels connected to the scanning lines,
sequentially for every one of the scanning lines, and

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application timings of applying the initialization signal
10 and the display signal for every one of the scanning lines are
set so as not to overlap with each other.

Claim 16 (Previously Presented). The drive control method
according to claim 12, wherein

applying the initialization signal includes applying the
initialization signal simultaneously to all display pixels
5 connected to the scanning lines.

Claim 17 (Previously Presented). The drive control method
according to claim 12, wherein

providing the signal application period in the field period
includes providing three signal application periods in one field
5 period.

Claim 18 (Previously Presented). The drive control method
according to claim 17, wherein

the display signal comprises first, second, and third color
component signals, and

5 applying the initialization signal includes applying the
initialization signal simultaneously to the plurality of display

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pixels connected to the scanning lines, in each of the signal application periods, and

10 applying the display signal includes applying any of the first, second, and third color component signals, to the display pixels connected to the scanning lines, sequentially for every one of the scanning lines, in each of the signal application periods.

Claim 19 (Previously Presented). The drive control method according to claim 18, further comprising controlling light emission color of an illumination light source, wherein

5 controlling of light emission color includes controlling the light emission color of the light source so as to correspond to any of the first, second, and third color component signals that is applied to the display pixels in applying the display signal.